

M/041/0008 cc/ Lynn Task: 3801

**United States Gypsum Company** 

81 North State Sigurd, UT 84657 435 896-2400 Fax: 435 896-2407

Founded in 1902

October 5, 2010

Paul Baker Minerals Program Manager Division of Oil, Gas, and Mining 1594 West North Temple, Suite 1210 Salt Lake City, UT 84114-5801

Subject: Request to Amend Reclamation Plan, US Gypsum Company, Jumbo-Jensen Quarry, M/014/008, Sevier County, Utah

Dear Mr. Baker,

The attached documents are to request amendment of the reclamation plan for US Gypsum Company, Jumbo-Jensen Quarry, M/014/008 that was submitted on August 25, 2009 and approved by the Division on January 11, 2010.

The modification reflects a request to change the slope ratio of 3:1 (1 ft vertical rise per 3 ft horizontal run) to a new slope ratio of 1.5:1 based on existing natural surrounding topography. The amendment also includes leaving 7.6 miles (27.8 acres) of existing haul roads for use by adjacent property owners for access to their lands.

The cost estimates have been revised using Cost Works RS Means 2010 values and includes current figures for equipment utilization, recontouring, site monitoring, insurance, revegetation, razing of buildings and labor. The razing costs are related to the removal of an explosives magazine and a water tank. The estimated cost for this reclamation and 5 year disturbances is \$1.46 million. As USG has shown, we are continually committed to improving and reclaiming areas as we fully develop and extract their useful value.

If there are any questions please contact us.

Sincerely,

Bruce Allen Plant Manager

U.S. Gypsum Company

RECEIVED

OCT 18 2010

DIV. OF OIL, GAS & MINING

Cc: Roger Sharpe Clay Shumway Jeremy Taylor

## **Application for Mineral Mine Plan Revision or Amendment**

Operat	or: UNITED	STATES GY	PSUM COMPANY
Mine N			File Number: M/ 041 / 008
Provide a de maps and d pages, or ot	etailed listing of all rawings that are to her information as	changes to the no be added, replace needed to specific	nining and reclamation plan that will be required as a result of this change. Individually list all ced, or removed from the plan. Include changes of the table of contents, section of the plan, fically locate, identify and revise or amend the existing Mining and Reclamation Plan. Include of the description.
	DETAILE	D SCHEDULI	E OF CHANGES TO THE MINING AND RECLAMATION PLAN
			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
□ ADD	₩ REPLACE	□ REMOVE	MAP 1JUMBO MAP
□ ADD	✗ REPLACE	□ REMOVE	MAP 2 JENSEN MAP, NE
□ ADD	ズ REPLACE	□ REMOVE	MAP 3 JENSEN MAP, SE
□ ADD	ズ REPLACE	□ REMOVE	MAP 4 JENSEN MAP, SW
□ ADD	ズ REPLACE	□ REMOVE	MAP 1 JENSEN MAP, NW
□ ADD	ズ REPLACE	□ REMOVE	APPENDIX A - AMMENDMENT TO PLAN
□ ADD	□ REPLACE	★ REMOVE	APPENDIX B - RECLAMATION MATERIAL PLAN
□ ADD	ズ REPLACE	□ REMOVE	COST OF RECLAMATION ESTIMATE
□ ADD	ズ REPLACE	□ REMOVE	ATTACHMENT A - DISTURBED AREAS SUMMARY
<b>≭</b> ADD	□ REPLACE	□ REMOVE	MAP 6 JENSEN MAP, SECTION A-A'
X ADD	□ REPLACE	□ REMOVE	MAP 7 JENSEN MAP, SECTION B-B'
X ADD	□ REPLACE	□ REMOVE	MAP 8 JENSEN MAP, SECTION C-C'
ズ ADD	□ REPLACE	□ REMOVE	MAP 9 JUMBO MAP, SECTIONS
his applic aws of Uta rint Name	ation is true	and correct	sible official of the applicant and that the information contained in to the best of my information and belief in all respects with the nitments and obligations, herein.  Sign Name, Position  Date
Return to:	State of Litah		

Department of Natural Resources Division of Oil, Gas and Mining 1594 West North Temple, Suite 1210 Box 145801 Salt Lake City, Utah 84114-5801

Phone: (801) 538-5291 Fax: (801) 359-3940

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	FOR DOGM	USE ONLY:
	File #: M/	1
Appi	roved:	
Bond Adjustment: fro	om_(\$)	
to \$		

Mine Name: JUMBO-JENSEN QUARRY

Operator: UNITED STATES GYPSUM COMPANY

## **Application for Mineral Mine Plan Revision or Amendment**

	DETAILE	D SCHEDUL	E OF CHANGES TO THE MINING AND RECLAMATION PLAN
			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
ADD	□ REPLACE	□ REMOVE	JENSEN MAP
ADD	□ REPLACE	□ REMOVE	
ADD	□ REPLACE	□ REMOVE	
ADD	□ REPLACE	□ REMOVE	
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appli	cation is true	and correc	esible official of the applicant and that the information contained by the to the best of my information and belief in all respects with the initments and obligations, herein.    Sign Name, Position   Official Date   Offic
urn to:			
	State of Utah Department of I Division of Oil, 0 1594 West Nort Box 145801	Gas and Mini	uite 1210  FOR DOGM USE ONL File #: M/ / Approved:  Bond Adjustment: from (\$)

008

041

File Number: M/

## Mining and Reclamation Plan Amendment

U.S. Gypsum Company

Sigurd, Utah

October 4, 2010

Submitted by: Jeremy Taylor Plant Engineer

#### Amendment to the MR-1 SEP 14 1987 Reclamation Plan:

The scope of the proposed reclamation plan amendment is to provide for a safe and stable post-mining environment and allow for future productive land use. The intent of the reclamation program is to remediate mining related disturbances. Objectives of the reclamation plan include maintaining public safety, conservation of natural resources, stabilization of slopes and soils to inhibit erosion, rehabilitation of rangeland and wildlife habitats and mitigation of visual impacts.

The proposed productive post-mining land uses are rangeland grazing and wildlife habit
The Sigurd Jumbo-Jensen quarry and Jensen Quarry disturbances will be reclaimed to
approximate the conditions of the surrounding undisturbed land, so that they appear
natural-utilizing form, line, color and texture. Quarry benches and highwalls will be
reduced to an overall slope of 1.5H:1V to more closely approximate the pre-mining
landscape, natural benches, vegetation and drainage. Re-vegetation activities will be
implemented to reestablish pre-mining flora conditions. The proposed amendment
includes leaving 7.6 miles (27.8 acres) of haulage/access roads for use by adjacent
property owners for access to their lands

Changing geologic, economic, site and technological conditions over the recent operational recent years have required modification and rescheduling of the activities defined in the UDOGM approved 1987 reclamation plan. Due to updated gypsum board manufacturing technology, the quarry has temporarily held off deferred from the reclamation of existing pits in the Jumbo and Jensen Quarry areas. This new The

as As a result there is now an emphasis on fully exhausting maximizing the recovery of all lower grade gypsum resources reserves in each pit before the pits are closed closure and reclamation. In addition, the quarry is using a new drill that allows access to previously inaccessible rock gypsum outcrops.

An updated aerial surveying was conducted and new topographic maps were created (9-18-06) in 2006. These maps have allowed for an extremely accurate evaluation revaluation of existing mining disturbances, showing that the quarry had more resulting in a larger amount of disturbed acreage than is currently bonded. This amendment addresses current and future the re-estimated existing and anticipated future mining disturbances and reclamation planning for the Jumbo and Jensen Quarry areas. Also, a Additional gypsum resources have been mapped and shown as future mining areas, extending the current mining life of the operation.

The Sigurd gypsum and manufacturing operations is are estimated to be in operation continue for a minimum of 20 additional more years. Continued geologic mapping and improved quarrying and manufacturing practices may extend the ultimate life even longer. Concurrent reclamation will occur where possible. However, numerous gypsum quarries must remain active and accessible for blending to provide a consistent purity of gypsum rock and for changing seasonal weather conditions. is produced from different quarries and blended at the primary crusher to provide a consistent purity of gypsum rock for the manufacture of wallboard products.

USG has accumulated a pile of off spec gypsum wallboard material that the plant would like to utilize as reclamation fill. This fill will be used to meet the requirements for proper reclamation as described in "Appendix B".

## Amendments to Form MR-1 SEP 14 1987 Page 1:

## 2. Address: Permanent:

Corporate- 550 West Adams St., Chicago, IL 60661 Plant- P.O. Box 570160, 81-78 North State Street, Sigurd, UT 84657

## 3. Company Representatives:

#### SIGURD PLANT

Bruce Allen, Plant Manager

Address: P.O. Box 570160, Sigurd, UT 84657

Phone: 435-896-2401

Clay Shumway, Quarry Manager

Address: P.O. Box 570160, Sigurd, UT 84657

Phone: 435-896-2431

Jeremy Taylor, Plant Engineer

Address: P.O. Box 570160, Sigurd, UT 84657

Phone: 435-896-2423

Josh Reese, Project Engineer

Address: P.O. Box 570160, Sigurd, UT 84657

Phone: 435 896 2423

#### CORPORATE

Roger Sharpe, Director, Geotechnical and Mining Services

Address: 550 West Adams St., Chicago, IL 60661

Phone: 312-436-3964

Larry Pawlosky, Manager, Mines and Quarries Address: 550 West Adams St., Chicago, IL 60661

Phone: 312-436-4136

## 5. Owner(s) of record of the surface area within the land to be affected:

Name: <u>United States Gypsum Company</u> Address: <u>550 West Adams St., Chicago, IL</u> <u>60661</u>

## 6. Owner(s) of record of minerals to be mined:

Name: <u>United States Gypsum Company</u> Address: <u>550 West Adams St., Chicago, IL</u> 60661

## Amendments to Form MR-1 SEP 14 1987 Page 2:

# 11. Give the names and mailing addresses of every principal Executive, Office, Partner (or person performing a similar function) of Applicant:

Name	Title	Address
Bill Foote	Chairman & CEO	550 West Adams St., Chicago, IL 60661
Fareed Khan	President, Building Systems	66 66
Joe Holmes	Vice President, Manufacturing	66 66
Jim Metcalf	President & COO	"
Chris Griffin	Executive VP, Operations	66
Chris Lawson	Senior VP, Manufacturing	66
Jeff Barth	Vice President, Manufacturing	66
Roger Sharpe	Director, Geotechnical and Minir	ng Services "

## Amendments to Form MR-1 SEP 14 1987 Page 4:

## 14. Acreage to be disturbed

Changing economic, geologic, market, and technological factors have affected the mining and reclamation plan at the Jumbo and Jensen Quarry areas. The existing disturbed acreage has grown to 295 acres. Future disturbed acreage for the next five years is estimated to be 77 30 acres. The acreage defined for bonding will include current disturbance plus future disturbance for a total of 380 324 acres.

The estimated cost of reclamation and bonding for areas identified in the disturbance inventory (Attachment A) is calculated and shown in Appendix "A". Even though reclamation has been deferred in active quarries until all recoverable gypsum has been removed, the overall Sigurd reclamation plan is to complete reclamation of depleted pits upon closure of those pits and not wait until final closure of the Sigurd operation. Sigurd will strive for completion of pits, reclamation and release of reclaimed acres throughout the active mining cycle.

The attached maps have been developed from aerial digital terrain modeling and depict an accurate representation of existing disturbed acreage, reclaimed acreage and future pits of quantified gypsum occurrences to extract the measured gypsum reserves. The total volumes indicated on the maps represent the areas that have been affected by the mining cycle. but do not indicate However, the accurate re-estimated volume of material required to reclaim the quarry pits to as close as possible prior to disturbance does not represent the amount of material to return the quarried areas to pre-mining conditions (e.g backfilling existing pits). The reclamation volume has been estimated based upon experience and projected volumes to re-establish a natural and useful land use for post

closure. Slopes will be constructed with the use of a dozer, backhoe and ground engaging equipment in order to create microbasins for extreme surface roughening. Both concave and convex slope shapes will be utilized according to the type of reclamation material available and to achieve the most desirable result and natural appearing result.

## Amendments to Form MR-1 SEP 14 1987 Page 4a:

## **Description of Sigurd Plant Mining Operations**

The United States Gypsum Company owns and operates many 15 mines and quarries in the United States and Canada. Among these is are the Jumbo and Jensen Quarries from which gypsum rock is extracted and supplied to the plant in Sigurd, Utah for manufacturing gypsum products. The company has operated the quarry since 1947. The gypsum occurs in most areas as a steeply dipping bed in ridges or hills with green shale and red clay on the sides of the bed (See page 4B, Form MR-1 Sep 14 1987). All areas are mined as surface quarries with some stripping of the shale and red beds. Stripping of overburden and development is performed with a dozer. Gypsum rock is drilled with a mobile drill and shot fragmented using with explosives (See page 4C, Form MR-1 Sept 14 1987). The rock is loaded onto off-highway trucks with a front-end loader and hauled approximately seven (7) miles to the manufacturing plant-for processing. In most areas the exposure of gypsum occurs 20 to 100 feet in thickness wide and quarried to an average depth from of 20 to 60 feet. As indicated by the topography maps, mMost outcrops occur on the tops of steep ridges. Careful planning and engineering is required in these areas to maximize rock extraction and to maintain safety as a first priority in mining operations.

#### United States Gypsum Company, Sigurd Utah Reclamation Cost Calculations Jumbo-Jensen Quarry M041008 Sevier County, Utah

### Revised - September 2010

#### Sources of Data

R.S Means Heavy Equipment Construction Cost Data 2010	9	S/Hour			
Monthly rental rates are based upon 176 operating hours			Fuel (gal/hr)	Tot	al \$/Hour
Estimated diesel fuel cost per gallon		\$3.30			
Dozer, crawler, 300HP (01-54.3320-4310) = \$9,525	\$	54.14	16.0	\$	106,94
Grader, self-propelled, 30,000lb (01-54.3320-1910) = \$4,875	\$	27.70	6.0	\$	47.50
1 CU.YD Capacity Hydraulic Excavator = \$6,225	\$	35,37	7.0	\$	58.47
Water tank trailer, 5,000 gallons (01-54-33.40-6900) = \$1,300	\$	7.39	3.0	\$	17.29
Mobilization/ Demobilization for all equipment= \$3,500					

Fuel usage - 5 gallons/hour @ \$3.30/gallon	\$	16.50
Subtotal \$/hour for tractor	\$	33,40
Ripper	\$	35.00
Disk	\$	30.00
Fertilizer Spreader & Seeder	S	30.00

Re-seeding	S/Acre	
Miscellaneos Seed - Wildflower mix (32-92-19.14-5700)	\$	150

R.S Means Heavy Equipment Construction Cost Data 2010	Wage	Fringe	Total
Dozer Operator	\$ 33,10	\$ 21,10	\$ 54.20
General Laborer	\$ 25.50	\$ 17.40	\$ 42.90

#### (A) Earthwork, Recontouring, Ripping or Scarifying

\*Road lengths determined from quarry autocad drawings

(1) Roads

Given:
Till, boulder clay/hardpan, Medium Hard, Grader Rear Ripper - 180 HP, ideal conditions

R. S. Means Heavy Equipment Construction Cost Data 2010		re Equipment Cost justed for Zip Code 84657	Bare Labor Cost		Total	Overhead and Profit @ 28.5%	То	otal Cost Per Cu. Yd.		
Grader Ripper (Ideal Conditions),180 HP (31-23-16.32-2310)			\$ 0.61			\$ 0.78			- 10	
Grader Ripper (Ideal Conditions), 180 HP (31-23-16.32-2310)	\$	0.94		\$	1.55	\$ 1.21	\$	1.99		
Hydraulic Excavator (2 C.Y. capacity) (31-23-16.42-0260)			\$ 0.35			\$ 0.45				
Hydraulic Excavator (2 C.Y. capacity) (31-23-16.42-0260)	\$	0.99		\$	1.34	\$ 1.27	\$	1.72		
Crawler Dozer (300' haul) (31-23-16.46-5400)	W. The		\$ 0.54	Т		\$ 0.69				
Crawler Dozer (300' haul) (31-23-16.46-5400)	\$	3.35		\$	3.89	\$ 4.30	\$	5,00	120	
Water Truck-5000 gallon/self loading(01-54-33.40-6900)			\$ 0.32			\$ 0.41				
Water Truck-5000 gallon/self loading(01-54-33.40-6900)	\$	0.35		\$	0.67	\$ 0.45	\$	0.86		
Road Reclamation		Length (ft.)	Width (ft.)		Thickness (ft.)	Cubic Yards		Labor Cost	Equi	pment Cost
Jensen Mine		24,833	40		1	36,790	\$	43,965	\$	60,984
Jumbo Mine		27,257	40		1	40,381	\$	48,257	\$	66,937
Subtotal Roads	Target Land	52,090				77,170	5	92,222	S	127,921
Total Ripping/Scarifying Roads									S	220,144

<sup>\*</sup>SEE ATTACHMENT "A" JUMBO / JENSEN RECLAMATION VOLUMES\*

#### (2) Pits and Overburden Pile Recontouring

Given: Equivalent to ripping till, boulder clay Excavator, Crawler Dozer, ideal cond	/hardpan, Medium Hard, Grader Ripper, Hydraulic				
Rec	ontouring Pit Surfaces	Cubic Yards	Labor Cost	Equipment Cost	Cost/Cubic Yard
Jumbo Mines		11,997	\$ 9,074	\$ 42,51	1 \$4,30
Jensen Mines		9,051	\$ 6,846	\$ 32,07	
Total Labor Cost	Total Equipment Cost		\$ 15,920		
Total Pit Recontouring		21,048		\$ 90,50	2 \$4.30

<sup>\*</sup>Cost per cubic yard = dozer+excavator+water truck

#### (3) Razing Buildings and Equipment

Given:	R. S. Means Heavy Equipment Construction Cost Data 2010											
Group 4 Demolition Crew		Equi	pment Rate		Wage Rate	Π	Overhead	Г	Total		Total	
Foreman with pickup truck	1	\$	13.35	S	57.50	\$	-	S		\$		
Front end loader, 3 C.Y. Capacity	Land Control	\$	59.93	S	64.30	8		S		8		
Laborers (2)		1 -		S	51.05	8		S		2	70	
Truck drivers (2) with 12 CY dump trucks, 400HP		2	58,50	S	43.60	8		5		2		
Air compressor 250 CFM with air tools and accessories		S	16.10	100000	15.00	8		5		2		
Subtotal Group 4 Per Hour	X 8 3	\$	147.88		216.45	8		5		2		
Allowance for general conditions and overhead (50% of labor)	3	\$		\$	210.45	\$	72.18	S		2		
Total Cost Per Hour		\$		S		8	, 2.10	S	437	8	437	
Percentage of Total Cost				-		1 4		No. of Contract of	40,		100%	

Estimated By: Jeremy Taylor Plant Engineer

<sup>\*</sup>Assumption that 70% of material by Dozer, 30% material by Excavator, 33% Water Truck usage.

Group 4 Crew at \$405 per hour		Steel				Masonry		Concrete
5.3 hours estimated	\$	2,313.50						
5.5 hours estimated			\$	2,400.81	465		1	
12.5 hours estimated					\$	5,456,38		
6.8 hours estimated							S	2,968.27
Subtotal Cost	S	2,313.50	\$	2,400.81	\$	5,456,38	S	2,968.27
Contractor overhead and profit of 28.3%	S	550.61	\$	571.39	\$	1,298,62	\$	706.45
Total, Subcontract	S	2,864.12	\$	2,972.20	\$	6,754.99	S	3,674.72
Subcontract Standard Unit Price Per Cubic Foot	S	0.29	S	0.30	S	0.68	_	0.37

Demolition and Razing Structures	Length	Width	Height	Cubic Feet	To	tal Cost
Water tank (12,000 gallons) - estimated 40 hours	20	12	12	2,880.00	\$	17,460
Cap magazine - steel	8	8	8	512	\$	147
AP Emulsion magazine - steel	8	8	8	512		147
Inactive powder magazine - masonry	20	40	10	8,000	\$	5,404
Dump Fee Allowance @ \$7.21 per Cu. Yd.@ Regional landfill				11,904	\$	3,179
Allow 74 cu. Yd. per 10,000 cu. Ft. of building volume			_		1	

Total Demolition and Razing of Structures	\$ 26,336
Overhead and Profit @ 23.8%	\$ 32,605
Labor Cost Proportion for Insurance Premium (37% of total cost)	\$ 9.745

#### (B) MONITORING

Given:	7					
Quarterly inspection for two growing seasons.						
Two weeks per quarterly inspection (4 weeks/year)						
Truck rental-inspector vehicle \$250/week- Total \$1,000						
Field engineer's salary at \$1,325 per week.						
Project manager's salary at \$2,000 per week.						
Field Personnel Costs From R. S. Means Heavy Construction Cost Data for 2010	Bare Equipment Cost		Bare Labor Cost	Overhead and Profit		Total Cost
F: 11 - : (61 31 13 30 6130)	NA	6	1,015	\$ 310		1,325
Field engineer, average (01-31-13.20-0120)	NA	- 5	1,013		-45	1,340

Project Supervision and Revegetation Monitoring	Weeks	Wee	kly Salary	To	otal Cost
Revegetation Monitoring					T-17-11
Quarterly inspection - field engineer, three years	9	\$	1,325	S	11,925
Reclamation Project Supervision					
Project supervision - 24 months to complete project	104	S	2,000	S	208,000
Vehicle rental +fuel				S	1,500
Total Project Monitoring and Revegetation Monitoring Labor Cost				S	221,425

#### (C) REVEGETATION AND STABILIZATION

Table 1.-Estimated Revegetation Cost for Pits and Overburden Piles (August 2010)

Equipment	Cost/Day		Cost/Hour	Т	Total Cost/Hour	Acres/Hour	Acres	Hours		Cost	Co	st/Acre
300 HP Dozer		\$	106.94				324		\$		S	
Ripper	COLEME STATE	\$	35.00	\$	141.94	1.0	324	324.3	\$	56,993	S	175.72
Disk		\$	35.00	\$	141.94	1.5	324	216.2	\$	37,995	S	117.15
Fertilizer Spreader		\$	30.00	\$	136.94	2.5	324	129.7	\$	21,994	S	67.81
Total Cost For Equipment (includes 23.8% O&P)		) IFE							S	153,640	\$	474

Wages	v	/age/Hour		Benefits/Hour	Sum	Hours	Efficiency Adjustment	Adjusted Hours	To	otal Wage
Bulldozer Operator										
Ripper	\$	33.10	\$	21.10	\$ 54.20	324.33	0.2	389.2	\$	26,115
Disk	S	33.10	\$	21.10	\$ 54.20	216.22	0.2	259.5	\$	17,410
Fertilizer & Seeder	S	33.10	\$	21.10	\$ 54.20	129.73	0.2	155.7	\$	10,446
Broadcast Seeder	S		\$	Arrest IV	\$	216.22	0.2	259.5	\$	
Power Mulcher	\$		\$ -	_	\$	300.00	0.2	360.0	\$	No and a
Crimper	S		\$		\$ -	150.00	0.2	180.0	\$	
Laborer		1000			A PAR					
Seeding	\$	25,50	\$	17.40	\$ 42.90	311	0.1	342.1	\$	18,169
Total Cost For Wages		Elegant Hard			F M. 18.25			ALEXANT LESS	\$	72,140
Total Cost for Equipment and Wages (includes 23.8% profit)		F46 - 10 10 11 1		ST THEFT .					S	225,780

Seed, Fertilizer, & Mulch	Cost/Acre	Total Cost		
Seeds	\$ 385	\$ 125,015		
Fertilizer + Mulch	\$ 236	\$ 76,563		
Total		\$ 201,578		

Table 2. - Estimated Revegetation Costs for Roads, Exploration Areas, and Building Lots (August 2010)

Equipment	Cost/Day	Cost/Hour	Total Cost/Hour	Acres/Hour	Acres	Hours		Cost	Cost/Acre
300 HP Dozer	\$	16.90			54				
Ripper	8	35.00	\$ 51.90	1.5	54	36.0	\$	2,313	\$ 42.83
Disk	8	30.00	\$ 46.90	2.5	54	21.6	\$	1,254	\$ 23.22
Fertilizer Spreader	S	30.00	\$ 46,90	4.0	54	13.5	\$	784	\$ 14.52
Broadcast Seeder	S	30,00	\$ 46.90	2.5	54	21.6	\$	1,254	\$ 23.22
Total Cost For Equipment (includes 23.8% profit)							\$	5,605	\$ 104
Wages	Wage/Hour	Benefits/Hour	Sum	Hours	Efficiency Adjustment	Adjusted Hours	Tot	al Wage	
300 HP Dozer								5 Tal (5) (54)	
Ripper	\$ 33.10 \$	21.10	\$ 54.20	36.0	0.2	43.2	\$	2,899	300
Disk	\$ 33.10 \$	21.10	\$ 54.20	21.6	0.2	25.9	\$	1,739	THE STATE OF THE S
Fertilizer Spreader	\$ 33.10 \$	21.10	\$ 54.20	13.5	0.2	16.2	\$	1,087	
Broadcast Seeder	\$ 33.10 \$	21.10	\$ 54.20	21.6	0.2	25.9	\$	1,739	
Power Mulcher	\$ 33.10 \$	21.10	\$ 54.20	0.0	0.2	0.0	\$		
Crimper	\$ 33.10 \$	21.10	\$ 54.20	0.0	0.2	0.0	\$	-	
Laborer							\$		
Mulching	\$ 25.50 \$	17.40	\$ 42.90	36.0	0.1	39.6	\$	2,103	A STATE OF
Total Cost For Wages						The state of	\$	9,567	
Total Cost for Equipment and Wages (includes 23.8% overhead & profit)							\$	15,173	

Seeds, Fertilizer, and Mulch	Cost/Acre	Total Cost
Seeds	\$ 150	\$ 8,100
Fertilizer + Mulch	\$ 195	\$ 10,530
Total		S 18,630

Table 3. Summary of Revegetation Costs (August 2010)

Component of Revegetation	Was		Roads		Total	
Equipment	\$	153,640	\$	5,605	\$	159,245
Wages	\$	72,140	\$	9,567	\$	81,708
Seeding, Fertilizer, and Mulch	S	201,578	S	18,630	\$	220,208
Revegetative Cost for 47 Recontoured Acres @ \$1000/Acre	\$	47,100			\$	47,100
Total	S	474,458	S	33,803	\$	508,260
10% Administrative Fee	S	47,446	\$	3,380	\$	50,826
Total Cost For Revegetation	S	521,903	\$	37,183	S	559,086
Acres	I CONTRACTOR OF THE	324		54		
Total Cost Per Acre For Revegetation	S	1,609	S	689		

#### (D) Recapitulation of Total Reclamation Costs

Earthwork and Recontouring		Labor		Equipment		Materials
1. Roads	\$	92,222	\$	127,921	S	
2. Pits and rock piles	S	15,920	\$	74,582	S	
3. Buildings and equipment	s	9,745	\$	16,592	S	
Subtotal Earthwork and Stabilization	S	117,887	S	219,095	S	

Revegetation and Stabilization	Labor			Equipment	Materials	
Mobilization/Demobilization			\$	4,320		
1. Monitoring (post reclamation)	\$	221,425	\$		S	-
Monitoring and Mobilization Total	S	221,425	S	4,320	S	
Revegetation and Stabilization	S	81,708	\$	159,245	S	220,208
Total Earthwork and Revegetation	S	421,019	\$	382,660	\$	220,208

#### (E) Insurance (15% of total labor cost)

Area	E	arthwork	Re	vegetation	
Roads	\$	92,222	\$	9,567	
Waste Piles	\$	15,920	\$	72,140	
Demolition/Razing	\$	9,745	\$		
Monitoring	\$	221,425	\$		
Subtotal Labor	\$	339,312	\$	81,708	
Grand Total Labor	S	421,019			
Insurance (15%) of tota	al labor cost		S	63,153	

#### (F) Totals

Total Reclamation Costs + Add-ons		Labor		Equipment		Materials
Total Earthwork and Revegetation	\$	421,019	\$	382,660	S	220,208
Insurance (15% of total labor)	\$	63,153	S		\$	
Site/Public Protection-Signage, gates, berms	\$	4,500	S	7,000	\$	8,500
10% Reclamation management fee	\$	42,102	\$	38,266	\$	22,021
10% Contingency	S		\$	38,266	\$	22,021
3.2% escalation	\$	84,924	\$	68,468	\$	40,117
Total	S	615,698	\$	534,661	\$	312,866
Grand Total			S	1,463,224		AND CLOSE TO SERVE

US Gypsum Company Jumbo/Jensen Mine M/04/1008 21-Sep-2010

R647-4-106

106.3 Attachment "A" provides in table format a summary of disturbed acreage for each area

#### R647-4-113 SURETY

#### General Statements

- a) Decimal points have been limited on each spreadsheet.
- b) There will be no topsoil redistribution. The existing subsoil and rock from each pit will be used to recontour the pits.
- c) The dumpsite location is the Sevier County Landfill located 5 miles from the Jumbo-Jensen Mine. The dump fee used is \$7.21/cubic yard.
- d) No explosive remnants, combustible or flammable liquids will be present for disposal.
- e) No fill material will be required to reclaim the cap/powder magazine, emulsion storage area.
- f) There are currently 47 acres which have been recontoured, but not seeded. \$1000/acre was used to estimate closure costs for these areas,

Estimated By: Jeremy Taylor Plant Engineer

#### ATTACHMENT "A"

JENSEN QUARRIES

DISTURBANCE ACREAGE AREAS

SOURCE: NORTH AMERICAN MAPPING 2006

JENSEN MINE AREA	CURRENT	5YR ACRES	ACRES RECLAIMED	ACRES TO RELEASE
EAD EAST 355				
FAR EAST and ZEE	27.4	2.2		Mark - In
CARTER PEAK and 4ASE	26.2	4.4		Aller -
LINE	8.8			T-ton T-
WISHBONE				-
DOME	4.8		-	3.6
BOWL, HOGBACK, CLAW, THREE SISTERS	53.2			0.5
2C-2A NO.1 and 2C-2A NO.2 AND 2A SE	25.6			-
WORM	5.4			
STADIUM	15.5	2.2		
CRESCENT and C1	7.7			6.5
C2				1.7
C3	9.0			
C5			200	2.7
C6				1.6
C7	2.5			6.2
B4	1.4	The same of the sa		
2-1B	6.1	ALCOHOLD STATE		
3-1B				1.3
4-1B	3.1			
6A & 6B	5.6			4.3
4A NW	4.0	The state of the s		2.2
OIL WELL	3.3	3.3		2.4
GOLDMINE NORTH	4.6	0.0		2.7
GOLDMINE SOUTH	1.8	0.0		
B3	2.3	0.0		
CENTER 3C	2.3	0.0		
LUCKY STRIKE	4.4	1.1		
WISHBONE	4.4		-	
5B	The second		22.2	0.7
F1	A 100 30			2.7
B5	CO. OF			5.0
		7 - 1 - 1		3.7
D1				0.8
ISLANDS	The sections of the			2.3
CENTER 4A JENSEN DISTURBED ACRES	225.0	13.2	22.2	6.0

JUMBO MINE AREA	CURRENT ACRES	ESTIMATED 5YR ACRES	ACRES RECLAIMED	ACRES TO RELEASE
	<b>建作的思想有识。</b>			Ball Dog Balling
J48	1.8			
J46			7.8	
J43-J44	4.4			
J45			2.6	
J21	1.1	1.3		
J22	1.2			
J52		1.3	0.7	
J53	5.7	2.2	0.5	
J57			4.1	
J58	Marie Town		3.0	
J25 & J62			6.2	
J7 & J9	2.4		777.	
J12-J16	3.5			No. of the last of
DINK HILL	1.5	1.4	5.4	
N-1	1.0	3.3		
JUMBO DISTURBED ACRES	22.6	9.5	24.9	0.0

ACRES JENSEN ROADS	22.0	5
ACRES JUMBO ROADS	25.0	2

#### ACRES DISTURBED SUMMARY

#### Present Mining Disturbance

Jensen Claims	225.0
Jensen Roads	22.0
Jumbo Claims	22.6
Jumbo Roads & Borrow	25.0
TOTAL	295

#### Post 5 Year Mining Disturbance

Jensen Claims	13.2
Jumbo Claim	9.5
Jensen Roads	5.0
Jumbo Roads and Borrow	2.0
TOTAL	30
TOTAL ACRES DISTURBED	324

USG JUMBO-JENSEN MINE TABULATION OF VOLUMETRIC COMPUTATIONS BASED ON DIGITAL SURFACE MODELING 2010 RECLAMATION UPDATE

#### 5 YEAR DISTURBANCE ALL MINING AREAS

FINAL 4-Oct-20 JENSEN MINE AREA		PUTED MODEL VO AERIAL PHOTOGR CU YARDS -VOLUME		CURRENT MODEL DISTURBED ACRES	CURRENT MODEL CU YD PER ACRE	TONS GY PRODUCTION 2010-2015	5 YR DISTURBANCE NEW MINING AREAS ACRES	5 YR DISTURBANCE NEW MINING AREAS CU YDS (1)	FILLS CU YARDS +VOLUME	TOTAL CUBIC YARDS CUTS CU YARDS -VOLUME	CU YARDS NET VOLUME (2)
FAR EAST & ZEE	18,806	5,555	13,251	27.40	686.4	42,240	2,2	441	19,246.77	5,555.00	13,692
CARTER PEAK & 4ASE	5,166	2,991	2,175	26,20	197.2	84,480	4.4	882			
CLAW	1,009	4,632	(3,623)			0					
HOGBACK & THREE SISTERS	11,339	16,418	(5.079)			0					
	12,348	21,050	(8,702)	53,20	232,1	0			12,348.00	21,050.00	(8,702)
2C-2A NO.1 & 2C-2A NO. 2 & 2ASE	2,881			25.60	112.5	0			2,881.00	1,548.00	1,333
OCME	406	345	61	4.80	84.6				406,00	345,00	751
	-			7.70	Maria Company						
3 7	969			9.00	107.7				969,00	416,00	1,385
	1,371			2.50	548.4				1,371.00	112.00	1,483
VORM	536			5.40	99.3				536.00	231.00	767
TADIUM	1,571			15.50	101.4	42,240	2.2	441	2,011,77	2,136.00	4.148
2-1B	948			6.10	155.4				948.00	51.00	999
-1B	820	313	507	3.10	264.5				820.00	313,00	1,133
A & 6B		-		5,60		1 10					
OLDMINE	194	1,419	(1,225)	6.40	30.3				194.00	1,419.00	1,613
3		-		2.30	-					-	
4				1.40						-	
ENTER 3C	275	661	(386)	2.30	119.6				275.00	661.00	936
UCKY STRIKE				4.40		21,120	1.1	220	220,39		220
A NW				4.00	PERSONAL PROPERTY AND ADDRESS OF THE PERSON						
INE			1.0	8.80							
IL WELL		-	-	3.30		63,360	3.3	661	661,16		661
ENSEN TOTAL	46,291	36,828	9,463	225.00	161,1		13.2		42.888.1	33.837.0	9.051

	FILLS	CUTS					5 YR DISTURBANCE	5 YR DISTURBA
JUMBO MINE AREA	CU YARDS +VOLUME	CU YARDS -VOLUME	CU YARDS NET VOLUME	CURRENT MODEL DISTURBED ACRES	CURRENT MODEL CU YD PER ACRE	TONS GY PRODUCTION 2010-2015	NEW MINING AREAS ACRES	NEW MINING AF
J48	627	2 263	(1,636)	1,80	348.3			
J46	-	2,200	(1,000)	1,00	340,3			
J43-J44	1.047	(4,415)	5,462	4.40	238,0			
J21	3,620	(1,267)	4,888	1,10	3.291.2	25,344	1.3	
J22				1,20				
J52	-	-		-	_	25,344	1.3	
J53				5.70		42.240	2.2	
J7 & J9	W			2,40				
J12-J16				3.50	-			
DINK HILL				1,50	-	26,400	1.4	
N-1				1.00	-	63,360	3.3	
JUMBO TOTAL	5,295	(3,419)	8,713	22,60	387,8 AVG	182,688	9,5	7 29 70
A STATE OF THE PARTY OF THE PAR	CASE IN A			CURRENT ACRES			5YR ACRES	
MINE HAULAGE ROADS & BORROW PITS	S			47.0			7.0	

NEW MINING AREAS ACRES	NEW MINING AREAS CU YDS (1)	CU YARDS +VOLUME	CU YARDS -VOLUME	CU YARDS NET VOLUME (2)
		627,00	2,263.00	(1,636)
		-	-	-
		1,047.27	(4,414.53)	5,462
1.3	529	4,149,24	(1,267.28)	5,417
			-	
1.3	520			
2.2	882	881,54		882
		-		
1.4	551	550,96		551
3.3	1322	1,322.31		1,322
9.5		8,578,33	(3,418,81)	5,160

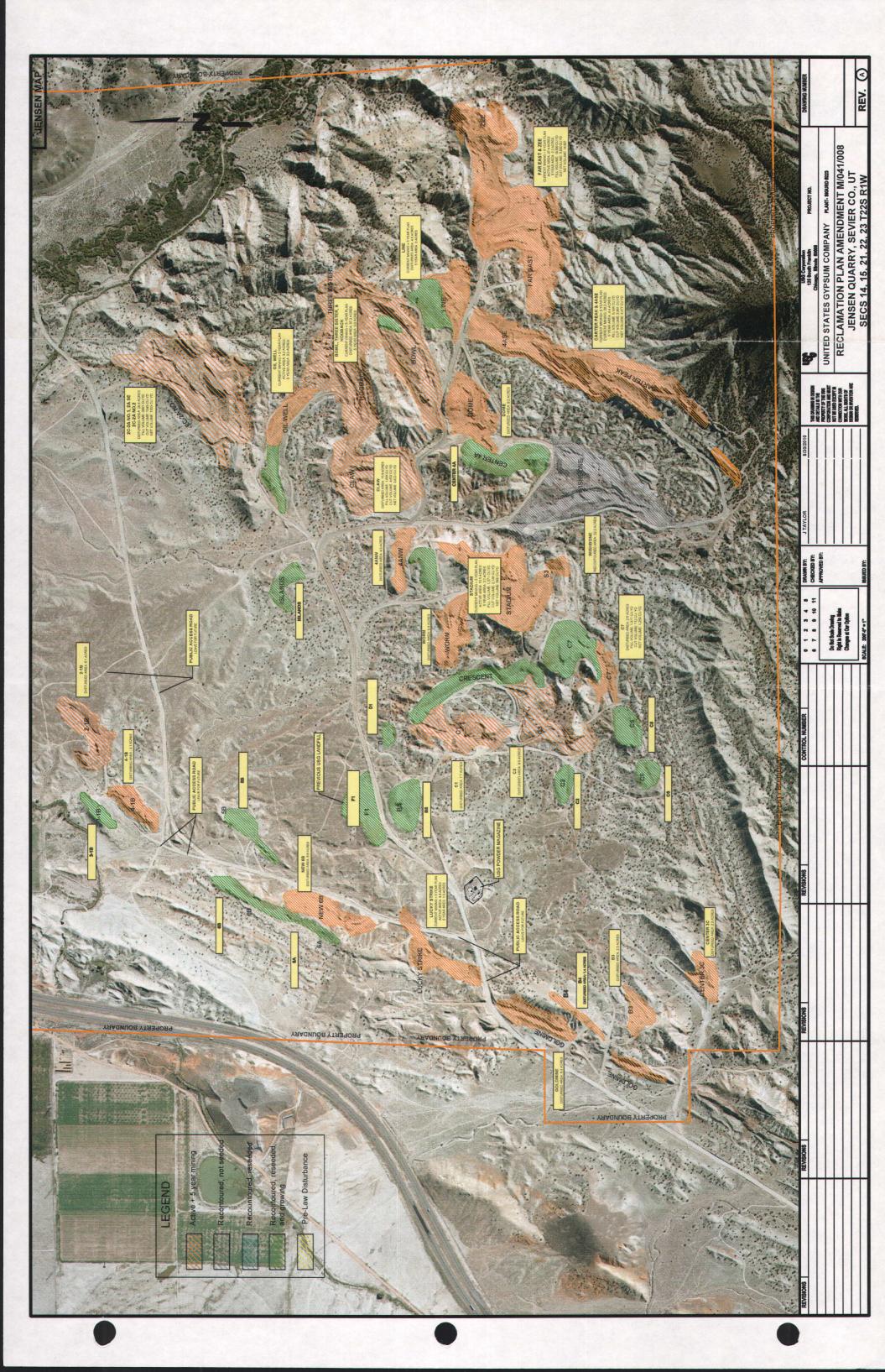
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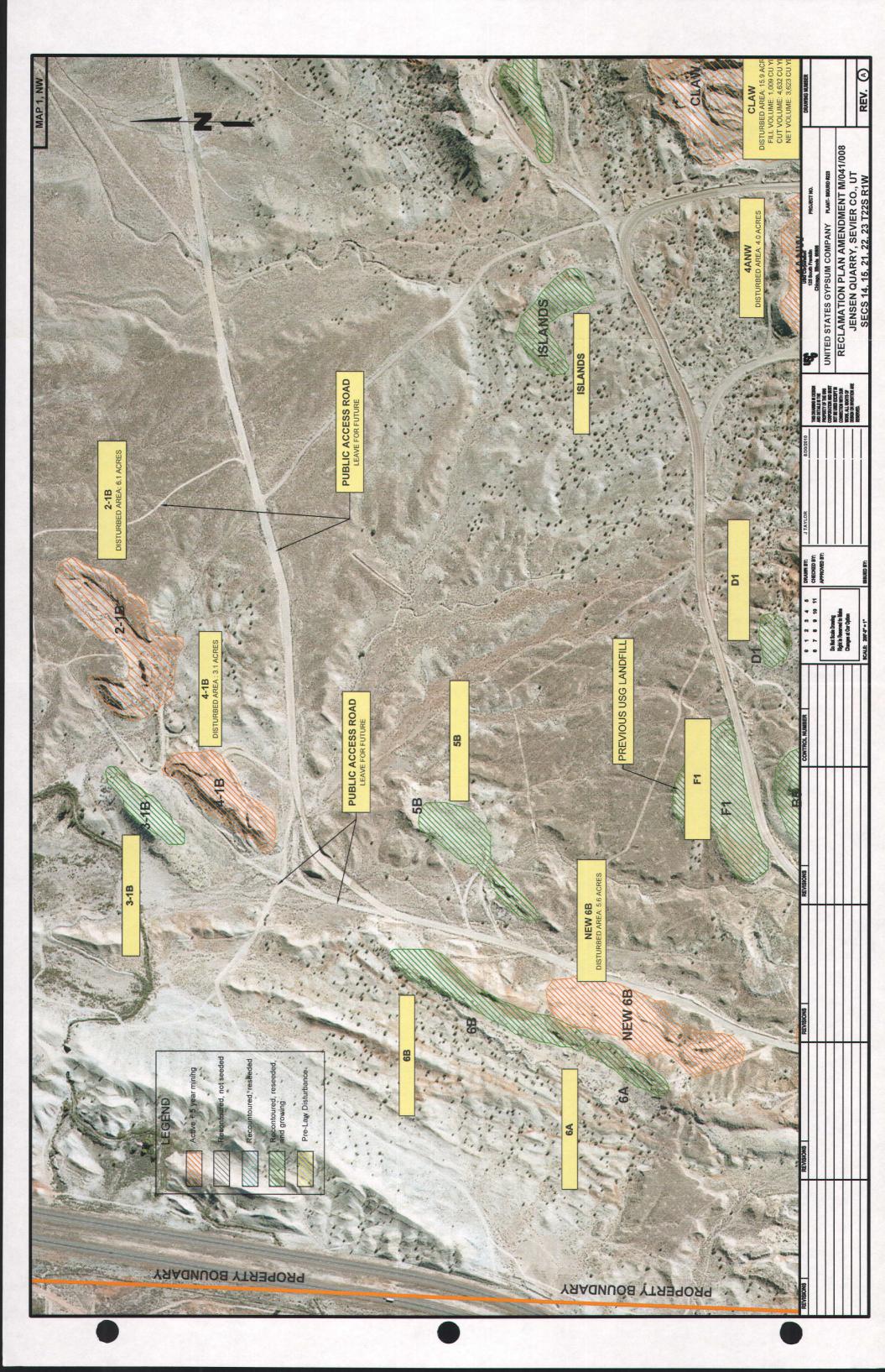
1) AS NOTED ON THIS SHEET, THE AVERAGE CU YD FILLIAC FOR JENSEN IS 160 YDS/AC; JUMBO IS 150 YDS/AC AVERAGE JENSEN 161.1 ROUND TO 200

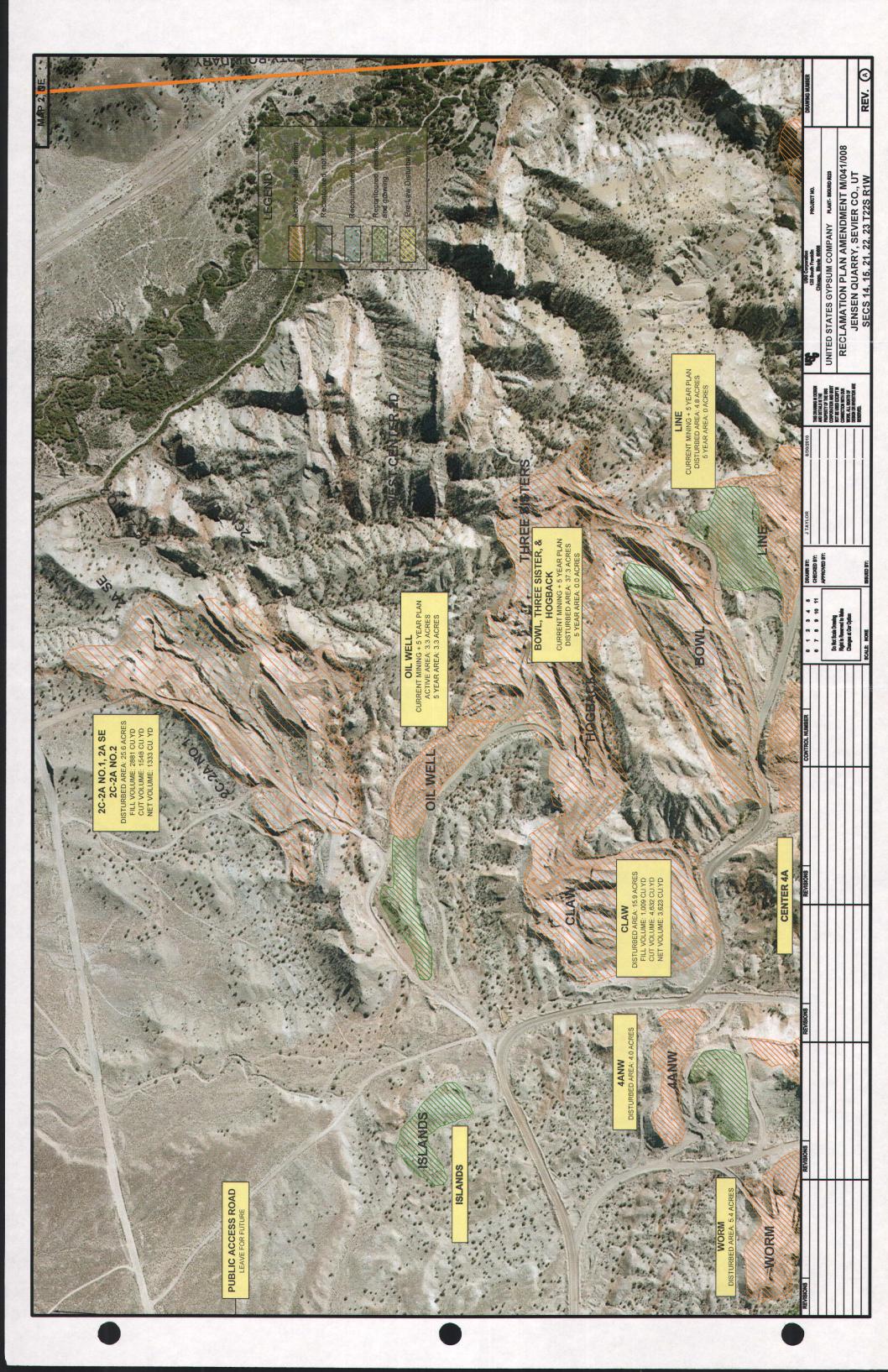
AVEREAGE JUMBO 387.8 ROUND TO 40

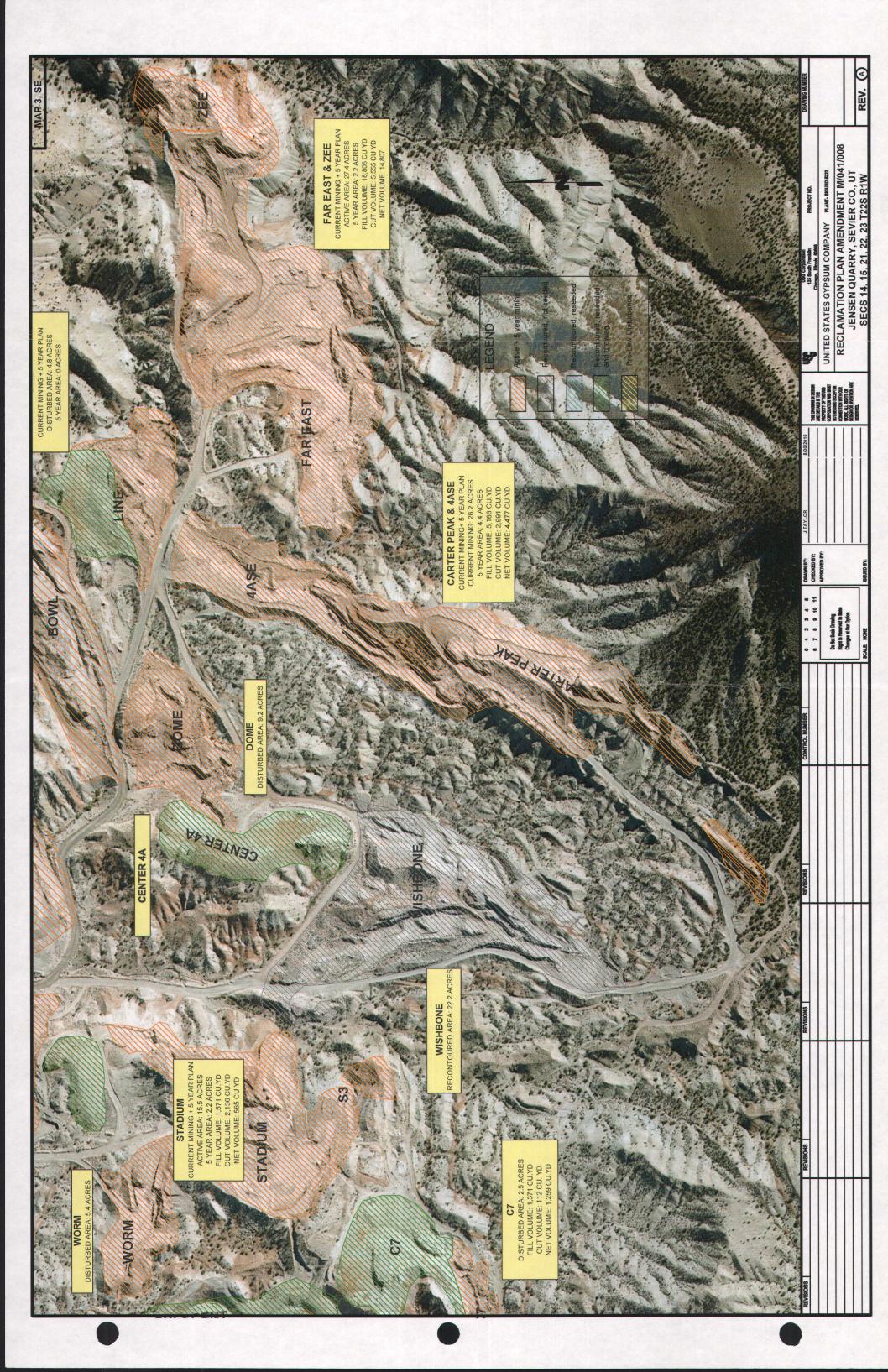
2) POSITIVE NET VOLUMES INDICATE CU YDS TO BE BROUGHT IN TO COMPLETE CONTOURING THAT SITE NEGATIVE NET VOLUMES INDICATE CU YDS AVAILABLE (LEFT OVER) FROM A SITE THAT CAN BE APPLIED AT ANOTHER SITE

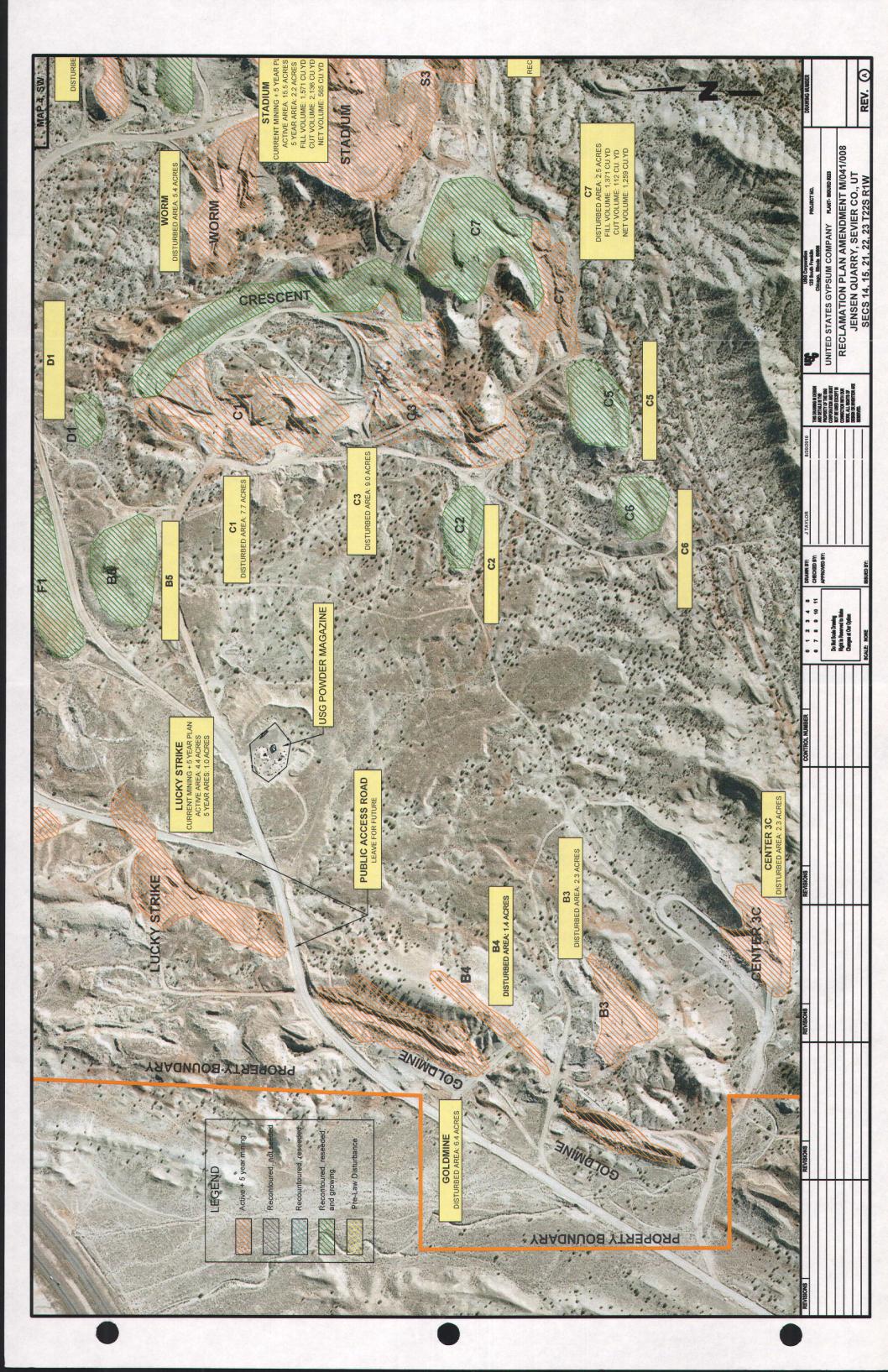
TOTAL 5YR PLANNED DISTURBED ACRES	324.3
TOTAL 5YR RECLAMATION VOLUMES	
FILLS	51,466.4
CUTS	30,418.2
NET VOLUME	21,048.2

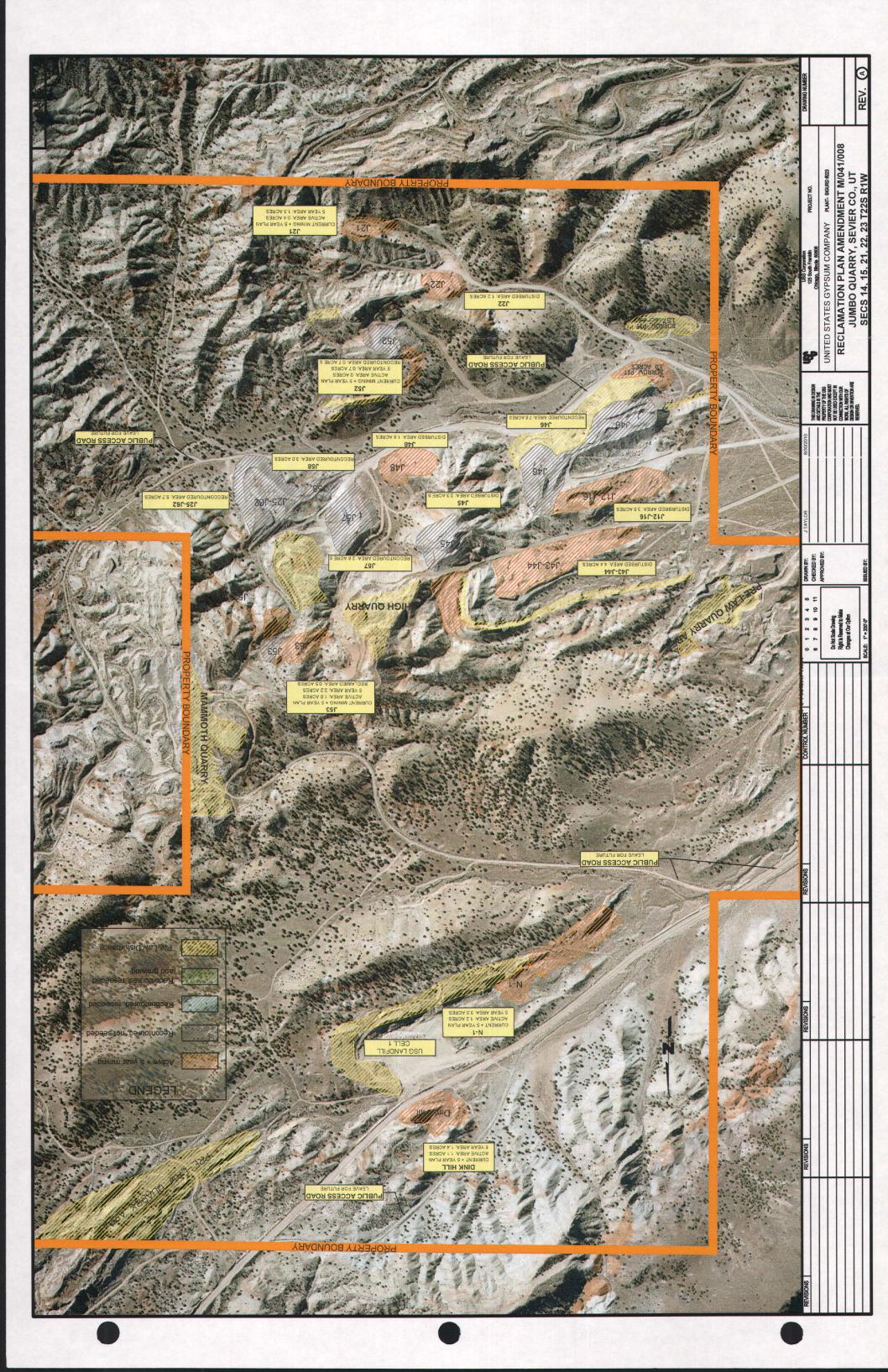




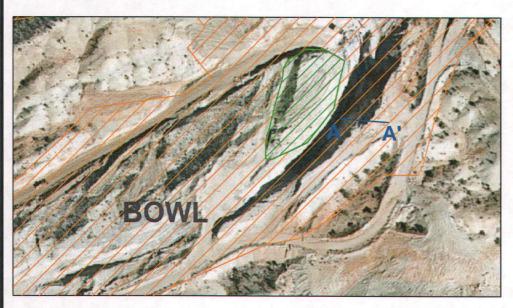


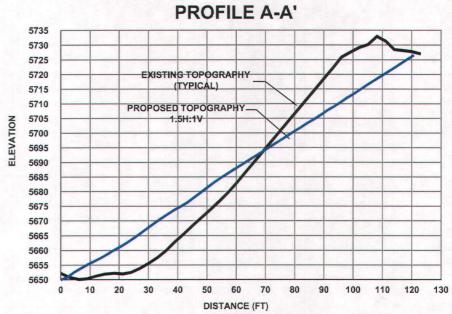






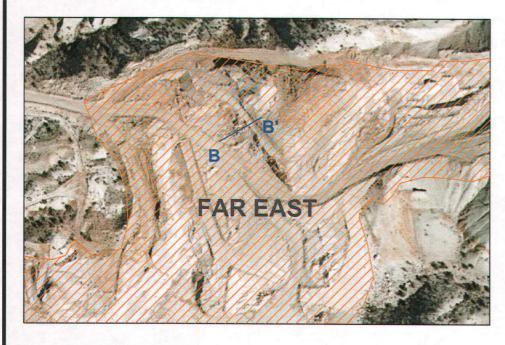
MAP 6

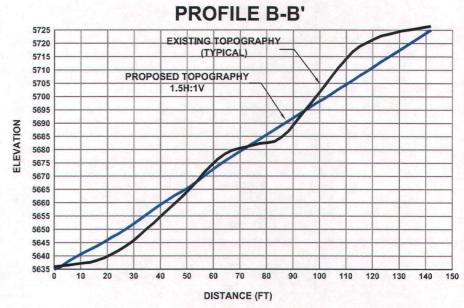




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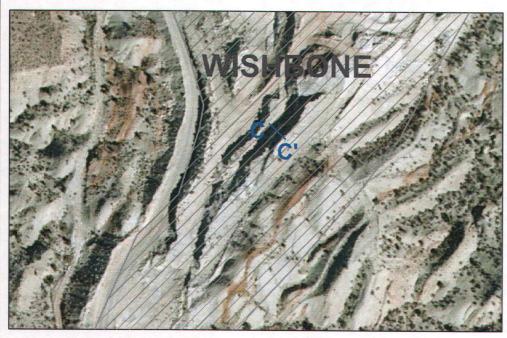
MAP 7

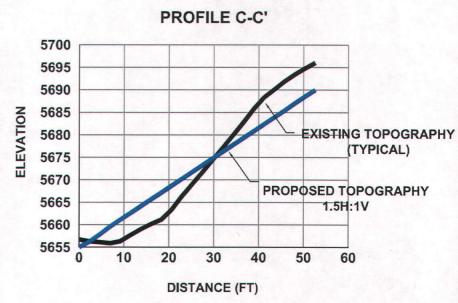




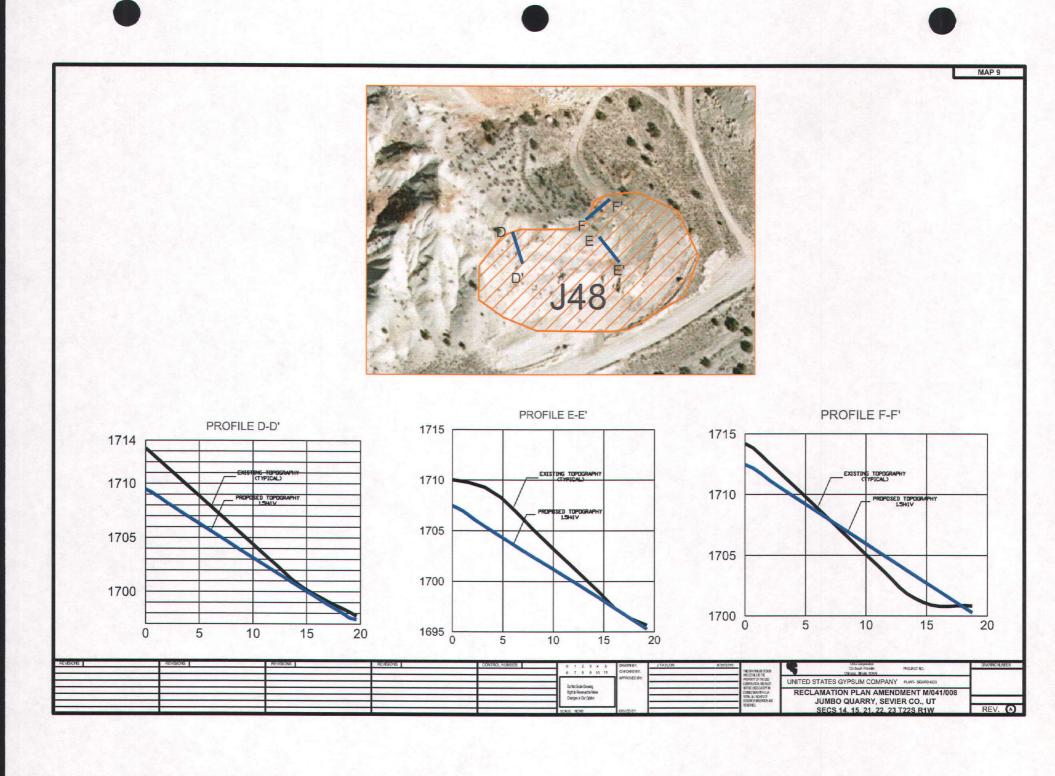
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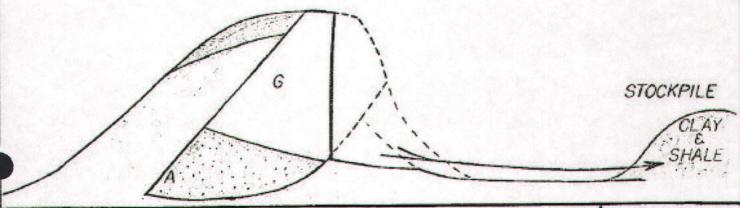
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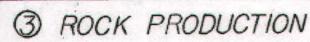
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CK. J. Jennings

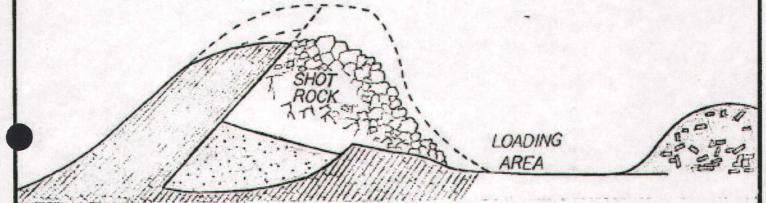
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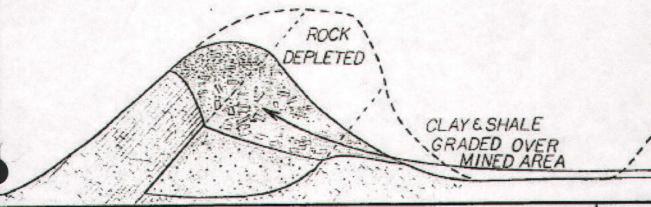
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